

USSR

BOGOMOLOVA, A. S., et al., Svarochnoye Proizvodstvo, No 9, 1973, pp 3-6

the relative thickness required for the copper sublayer was approximately 0.5 while this value for the magnesium-aluminum was not computed. 4 figures, 1 table, 12 bibliographic references.

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1/2 014 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--CHARACTER OF CHEMICAL BONDS IN A VANADYL COMPLEX FOR SOME OXIDE
GLASSES STUDIED FROM PARAMAGNETIC RESONANCE AND ELECTRON ABSORPTION
AUTHOR--(05)-BUGOMOLOVA, L.D., DOLGOLENKO, T.F., LAZUKIN, V.N., NOZORINA,
YE.N., PETROVYKH, N.V.
COUNTRY OF INFO--USSR *B*
SOURCE--DOKL. AKAD. NAUK SSSR 1970, 191(1), 54-7
DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS, CHEMISTRY

TOPIC TAGS--VANADIUM COMPLEX, OXIDE GLASS, EPR SPECTRUM, MOLECULAR
ORBITAL, GLASS COMPOSITION, CHEMICAL BONDING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1993/0505

STEP NO--UR/0020/70/191/001/0054/0057

CIRC ACCESSION NO--AT0113396

UNCLASSIFIED

2/2 014 UNCLASSIFIED PROCESSING DATE--16OCT70
CIRC ACCESSION NO--AT0113396
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ELECTRON ABSORPTION AND PMR SPECTRA OF VO PRIME2 POSITIVE IN B SUB2 O SUB3 NEGATIVE BAO MINUS V SUB2 O SUB5, SIO SUB2 MINUS BAO MINUS V SUB2 O SUB5, AND P SUB2 O SUB5 MINUS BAO MINUS V SUB2 O SUB5 GLASSES (CONTG. 1-5 PERCENT V SUB2 O SUB5) WERE MEASURED AT LIQ.-N TEMPS. AS A FUNCTION OF THE GLASS COMPN. THE NEW EXPTL. DATA AND THE EARLIER PUBLISHED DATA ON THE EPR SPECTRA OF V GLASSES (B., ET AL. 1967) WERE INTERPRETED WITHIN THE MO THEORY. THE RESULTS SUGGESTS THAT IN THE GLASSES STUDIED, VANADYL FORMS C SUB4V TYPE SYMMETRY COMPLEXES AND THE UNPAIRED ELECTRON IS LOCALIZED ON THE B SUB2G TYPE ORBITAL, CONSTRUCTED FROM 3D SUBXY ORBITAL OF V PRIME4 POSITIVE AND 2RHO ORBITALS OF O LIGANDS. THE COEFFS. BETA SUB1 AND BETA SUB1 PRIME AT THE ED SUBXY NEGATIVE AND 2RHO ORBITALS, RESP., ARE DETD. BY THE DEGREE OF LOCALIZATION OF THE UNPAIRED ELECTRON ON THE RESP. ORBITALS AND, THEREFORE, CHARACTERIZE THE PI BONDING IN THE EQUATORIAL PLANE OF THE COMPLEX. ANALOGOUS, B SUB1 EPSILON ORBITAL OF THE COMPLEX IS CONSTRUCTED FROM 3D SUBX PRIME2 MINUS SUBY PRIME2 ORBITALS OF V PRIME4 POSITIVE AND RHO ORBITALS OF THE VANADYL O AND THE CORRESPONDING COEFFS. (SPLHA AND GAMMA) AT THE D FUNCTIONS CHARACTERIZE THE SIGMA BONDING IN THE EQUATORIAL PLANE AND THE PI BONDING OF V WITH THE VANADYL O. EVALUATION OF THE PARAMETERS OF CHEM. BONDS BY THE MO LCAO METHOD CONFIRMED THAT THE COVALENCY OF PI AND SIGMA BONDS IN THE V COMPLEX INCREASES WITH THE AMT. OF THE GLASS FORMING AGENT IN THE ORDER P SUB2 O SUB5 YIELDS SIO SUB2 YIELDS B SUB2 O SUB3. FACILITY: MOSK. GOS. UNIV. IM. LOMONOSOVA, MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 632.95

BOGOMOLOVA, L. M., LUTSENKO, V. A., and PYATNOVA, Yu. B.

"Study of Admixtures and Decomposition Products of Editon by Thin-Layer Chromatography"

V sb. Khim. sredstva zashchity rast. (Chemical Protection of Plants -- collection of works), No 3, Moscow, 1973, pp 139-143 (from RZh-Khimiya, No 22, 25 Nov 73, Abstract No 22N 550 by G. A. Kosminskaya)

Translation: Study of admixtures and decomposition products of commercial editon [3,3'-ethylene-bis-(4,6-dimethyltetrahydro-1,3,5-thiadiazinethion-20)] by thin-layer chromatography. Silicic acid is the best sorbent. Commercial editon contains ethylenethiourea (main admixture), ethylenethiuram-monosulfide, ethylenethiuram-disulfide, S, and a product of undetermined structure. After chromatographically pure editon is stored for 3 to 5 months, the chromatogram shows the same admixtures as a commercial sample. Moreover, the stability of editon decreases sharply when stored in solutions in which the content of ethylenethiourea and S increases perceptibly within a few hours.

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USSR

UDC: 632.95

BOGOMOLOVA, L. M., LUTSENKO, V. A., PYATNOVA, Yu. B., Shchelkovo
Affiliate of the All-Union Scientific Research Institute of
Chemical Agents for Plant Protection

"A Method of Stabilizing 3,3'-Ethylene-bis-[4,6-Dimethyltetra-
hydro-1,3,5-Thiadiazinethione-2]"

USSR Author's Certificate No 345910, filed 12 Oct 70, published
18 Aug 72 (from RZh-Khimiya, No 10, May 73, abstract No 10N588P
by T. A. Belyayeva)

Translation: In order to extend the storage time of 3,3'-ethylene-bis-
-(4,6-dimethyltetrahydro-1,3,5-thiadiazinethione-2), 2-5% of ethylene thiourea
and/or thiourea is added. The results of analysis (with respect to CS₂) show
that the chemical remains stable over an 8-month period.

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USSR

UDC 613.6:615.187.5.012

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AYZENSHTAD, V. S., DOLMATOVA-GUSEVA, E. G., PERKHUROVA, V. P.,
SHTIFELMAN, A. V., BOGOMOLOVA, L. M., and MERUBAY, S. M., Institute of
Hygiene, Kuybyshev

"Labor Hygiene and the State of the Workers' Health in the Malathion Industry"

Moscow, Gigiyena truda i professionalnyye zabolevaniya, No 3, Mar 71, pp 49-51

Abstract: In the reactor section of a large malathion plant, the atmosphere was found to contain xylene, hydrogen sulfide, maleic anhydride, methanol, ethanol, malathion, as well as dimethyl dithiophosphoric acid, and diethyl maleate. More than 3,500 air samples were analyzed for the above compounds and the results reported in tabular form for the various process stages. It was established that contamination of the air in the plant was due to insufficient automation, the use of manual labor in the handling of poisonous materials, imperfect control devices, and so forth. Time studies showed that laboratory workers were in contact with poisons for 59-92% of their working time. Malathion was detected in washings from the hands and in the work clothes. It was established that laundering of the work clothes in a 1% caustic soda solution is 10 times as effective as the sodium tripolyphosphate 1/2

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AYZENSHTAD, V. S., et al., Gigiyena truda i professionalnyye zabolevaniya,
No 3, Mar 71, pp 49-51

wash used in the plant. It was recommended that plant ventilation be improved by installation of suction filtration devices at all points of high pesticide concentrations in the air. Also, the state of health of the workers was studied: 18 people had dermatitis and conjunctivitis, the number of cases of nervous system disorders increased from 10 to 38 over a 1 1/2 year period. Gastrointestinal disturbances increased from 5 to 23 cases over the same period. Rapid introduction of sanitary-hygienic measures was recommended plus repeated checks of the work conditions after their introduction.

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Molecular Biology

USSR

UDC 616.988.25-092.4-07:616-003.939.633.2-092.18-

07

ZHDANOV, V. M., GAVRILOV, V. I., KLIMENKO, S. M., BOGOMOLOVA, N. N., and ANDZHAPARIDZE, O. G., Institute of Virology imeni D. I. Ivanovskiy, Academy of Medical Sciences USSR, and Institute of Viral Preparations, Ministry of Public Health USSR, Moscow

"Chronic Infection of Cell Cultures by Tick-Borne Encephalitis Virus: Ribonucleoprotein Structures in Cells"

Moscow, Voprosy Virusologii, No 1, 1973, pp 17-23

Abstract: Labeled RNA precursors were added to HEp-2-Sof cell cultures chronically infected with tick-borne encephalitis virus, in which cellular RNA synthesis was suppressed antibiotically, to determine the location and nature of viral products. Virus-specific ribonucleoprotein was found to concentrate in mitochondrial membrane fractions. Two forms with 160S and 140S sedimentation constants were detected by sucrose gradient analysis. Densities were 1.33 and 1.42 gm/ml respectively in cesium chloride gradients. Electron microscope investigation indicated that the structures were threads 2.4-2.9 microns long, and 50 Å and 30-40 Å wide respectively. Threads of intermediate sizes were also detected. These data suggest that these are viral genomes. It is

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ZHDANOV, V. M., et al., Voprosy Virusologii, No 1, 1973, pp 17-23

concluded that chronically infected host cells inhibit production of mature virions but have less effect on genomes. What supports viral persistence and which structures make possible infection of newly divided cells remains unanswered.

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USSR

UDC 576.858.25.083.35.095.383.098.396.332

ZHDANOV, V. M., BOGOMOLOVA, N. N., GAVRILOV, V. I., and ANZHAPATIDZE, O. G.,
Institute of Virology imeni D. I. Ivanovskiy, Academy of Medical Sciences USSR,
and Institute of Viral Preparations, Ministry of Public Health USSR, Moscow

"Chronic Infection of Cell Cultures by Tick-Borne Encephalitis Virus:
Description of Ribonucleic Acid

Moscow, Voprosy Virusologii, No 1, 1973, pp 23-27

Abstract: Viral RNA produced in SPEV cells (acute infection) and HEp-2-Sof cells (latent infection) infected by tick-borne encephalitis virus was compared. Viral RNA of both culture types was identical with sedimentation constants ranging from 16S to 26S 1 hour after infection (peak at 20-22S) and 45S 5 hours after infection. The 16S-26S RNA, which was partially resistant to RNA-ase, is considered to be an intermediate form, while the 45S RNA was incorporated into ribonucleoprotein structures. Comparison with data on Venezuelan equine encephalitis virus showed that the studied virus is somewhat larger, with a molecular weight of about 3.2 million daltons.

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USSR

UDC 576.858.25.083.35.095.73

IZAKOVA, L. P., BOGOMOLOVA, N. N., and ANDZHAPARIDZE, O. G., Moscow Scientific Research Institute of Virus Preparations"

"Investigation of Lysosomes in Cells of Cultures Chronically Infected with Tickborne Encephalitis Virus"

Moscow, Voprosy Virusologii, No 6, Nov/Dec 71, pp 697-700

Abstract: Changes observed in the morphology and distribution of lysosomes, acid phosphatase activity, and absorption of vital stains in HEp-2-Soph culture cells chronically infected with tickborne encephalitis virus warrant classifying these cells into three groups. Group 1: the cells remain similar to controls. Group 2: during the first 48 hours after inoculation, the cells are characterized by a low acid phosphatase and presence of agglomerates of lysosomes near the nuclear membrane, and they resemble cells degenerating in the acute form of encephalitis. Group 3 is most numerous: from the 3rd to the 7th postinoculation days, lysosome "complexes" are present in the cells which also display a very high acid phosphatase activity and absorb large quantities of vital stains. Thus, by the lysosome reaction, the cells are similar to those observed in the latent form of tickborne encephalitis. After 7-8 days, the pathology begins to subside, and the morphology and function of the lysosomes of the HEp-2-Soph cells returns to normal.

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Microbiology

USSR

~~BOGOMOLOVA, N. N.~~ IZAKOVA, L. P., SHUKHIMINA, N. R., and ANDZHAPARIDZE, O. G.,
Moscow Scientific Research Institute of Viral Preparations

"Chronic Infection of Cells With Tickborne Encephalitis Virus. 7. Isolation of Cell Clones and Study of Their Properties"

Moscow, Voprosy Virusologii, No 5, 1971, p 623

Abstract: A study is presented of 15 cell clones isolated from chronically infected Hep-2-Soph cultures while protected by specific antibodies. The production of infectious tickborne encephalitis virus was detected in 13 clones where interference with WEE virus was observed and specific antigen was synthesized. The use of histochemical methods revealed three groups of cells with different metabolisms in each of the clones. The first group included degenerating cells found during the first 2 hours after subculturing. These cells contained an abundance of glycogen in the lyoform. They were also characterized by high succinic dehydrogenase activity with pronounced polymorphism of the formazan residue and low acid phosphatase activity. The second group of cells with normal morphology constituted most of the cell population. They were characterized by high succinic dehydrogenase activity, large content of lyo (dissolved) and granular glycogen, and high acid phos-
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USSR

BOGOMOLOVA, N. N., et al., Voprosy Virusologii, No 5, 1971, p 623
phatase activity. The third group was indistinguishable from the control
with respect to the nature of the metabolism of the substances studied. It
was concluded that most of the cell population could be infected by a chroni-
cally infected Hep-2-Soph culture.

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USSR

UDC 576.311:578.085.2

IZAKOVA, L. P., BOGOMOLOVA, N. N., ZALKIND, S. Ya., and ANDZHAPARIDZE, O. G.,
Laboratory of Cytopathology and Laboratory of Immunobiology, Institute of
Virus Preparations, Ministry of Public Health USSR, Moscow

"Studies of Lysosomes of Cells in Cultures Infected With Tickborne Enceph-
alitis Virus"

Leningrad, Tsitologiya, Vol 12, No 10, Oct 70, pp 1,328-1,333

Abstract: Cytochemical methods, determination of acid phosphatase activity and cytological methods (accumulation of neutral red and acridine orange dyes) were used in a comparative study of the lysosome apparatus of two stable cell lines, one of which acutely infected and the other latently infected with tickborne encephalitis virus. Considerable changes in the localization and physiological state of the lysosomes were found which are apparently associated with different stages of the infection. Immediately after infection, lysosome granules move to the cell periphery and their activity is reduced. After 2-3 hours, the lysosomes are in the perinuclear zone; their acid phosphatase activity is enhanced, as is the accumulation of vital stains. For the acute infection, the maximum reaction

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IZAKOVA, L. P., et al, Tsitologiya, Vol 12, No 10, Oct 70, pp 1,328-1,333

is observed 24 hours after virus inoculation. In the latent infection, the maximum reaction is observed 24-72 hours after infection. After 5-6 days, the lysosome apparatus returns to its normal state. The lysosome reaction in the early stages of infection thus depends on the type of infection (acute or latent).

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USSR

UDC 576.858.25.083.2:576.353

GIBADULIN, R. A., BOGOMOLOVA, N. N., and ANDZHAPARIDZE, O. G., Moscow Scientific Research Institute of Virus Preparations

"Chronic Infection of HEp-2 Cells with Tick-Borne Encephalitis Virus. Communication 6. Study of the Mitotic Cycle Parameters of Infected Cells"

Moscow, Voprosy Virusologii, No 6, Nov/Dec 70, pp 658-662

Abstract: HEp-2 cultures were studied by introduction of labelled H^3 -thymidine for 15 minutes. The index of labelled cells was 26.4-26.7% in the chronically infected culture and 38% in the control culture. It was found that, over a period of 48 hours, both types of cultures possessed the same proliferated pool of close to 100%. The chronically infected HEp-2-Sof culture was found to have a longer mitotic cycle (17 hours) than the uninfected culture. The mitotic index was 3.60-3.90% in the HEp-2 culture and 2.50-2.57% in the HEp-2-Sof culture. It is proposed that the synthesis of antiviral albumin by cells of the chronically infected cultures may be one of the reasons for the decrease in cell metabolism and the prolongation of the mitotic cycle.

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USSR

UDC: 621.371:538.569.4

NEDELYAYEV, A. M., GRUDINSKAYA, G. P., BOGOMOLOVA, Ye. V.

"Measuring the Absorption of Ultrashort Waves by Trees"

Tr. Mosk. energ. in-ta (Works of Moscow Power Engineering Institute), 1972, vyp. 119, pp 167-170 (from RZh-Radiotekhnika, No 12, Dec 72, abstract No 12A301 by N. S.)

Translation: An investigation was made of the frequency dependence of absorption of ultrashort waves with normal incidence on the tips of trees. The measurements were made by using various arrangements of felled trees in a special cell to simulate forests of various densities. The measurements showed that trees (birch and spruce) are essentially opaque to decimeter waves; attenuation rises with an increase in working frequency, and is higher for conifers. Attenuation also depends on the season (due to variations in the moisture content of the wood and the thickness of the treetops). One illustration.

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USSR

UDC: 621.371.332

BOGOMOLOVA, Ye. V., GRUDINSKAYA, G. P.

"Field of a Horizontal Dipole Raised Over Flat Ice-Covered Ground"

Tr. Mosk. energ. in-ta (Works of Moscow Power Engineering Institute), 1972, vyp. 119, pp 104-114 (from RZh-Radiotekhnika, No 12, Dec 72, abstract No 12A302 by N. S.)

Translation: The authors consider the field of a horizontal dipole at some height above a homogeneous layer of finite thickness covering a flat surface. The results are used for calculating the effective coefficients of reflection of separate components of the reflected wave in the case of normal incidence on the surface of ice-covered water. The calculation is done for sea water and fresh water. Three illustrations, bibliography of five titles.

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1/2 019 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--STABILITY OF SEVIN IN FROZEN FRUITS AND BERRIES DURING PROLONGED
STORAGE -U-

AUTHOR--BOGOMOLOVA, Z.N.

COUNTRY OF INFO--USSR

SOURCE--KCHSERV. OVOSHCHESUSH. PRGM. 1970, 25(1), 26-7

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--AGRICULTURE CROP, INSECTICIDE, CARBAMATE, CHEMICAL STABILITY,
FOOD CONTAMINATION, FOOD STORAGE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3001/0526

STEP NO--UR/9084/70/025/001/0026/0027

CIRC ACCESSION NO--AP0126274

UNCLASSIFIED

2/2 019

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0126274

ABSTRACT/EXTRACT--(U) GP-U- ABSTRACT. FRUITS AND BERRIES FROZEN AFTER
TREATMENT WITH 0.2PERCENT AQ. SEVIN CONTAINED 1.7-2.6 MG-KG OF
INSECTICIDE; NO SIGNIFICANT CHANGE IN CONTENT WAS FOUND AFTER STORING AT
MINUS 18DEGREES FOR 12 MONTHS. FACILITY: INST. PITAN., MOSCOW,
USSR.

UNCLASSIFIED

BOGOMOL'SKIY, M. A.

public health

SOME PROBLEMS DEALING WITH MORBIDITY RATE AND PHYSICAL CONDITION OF CHILDREN
AS RELATED TO SOCIOHYGIENIC ASPECTS

Article by L. S. Kuchina, M. A. Bogomol'skiy, M. I. Verbitskaya, Candidates of

MC (Public Health)

MC

Medical Sciences, Department of Social Hygiene and Public Health Organization,
Moscow Scientific Research Institute of Epidemiology and Microbiology (Director:
Professor I. I. Shatrov); USSR Ministry of Health, Moscow, Street Koye Zlatov-
chikmentseva, No 11, 1971, submitted 12 July 1971, pp 10-14

UDC: 616.1.131.13-633.3
20 DEC 71
561744

Our purpose was to demonstrate the relationship between some quantitative criteria of morbidity and physical condition of children and a number of socio-hygienic factors. This work was done in 1967-1968, in Gelyashinsk, Rostov-na-Donu, and Stupino, in Moskovskaya Oblast', which are located in different climate and geographic zones. In each of these cities we investigated the health and living conditions of children referable to two territorial pediatric districts of children's polyclinics fully staffed with qualified pediatricians and specialists. We collected data pertaining to 5,057 children from 3,566 families ranging in age from newborn to 15 years.

We obtained the data about morbidity rates and health of children by referring to case histories for a complete calendar year and copying information from them. Concurrently, with the help of district nurses who visited families, we completed charts (cards) about their living conditions. The information contained in the charts reflected housing conditions, number of members in the family (including children), the family's monthly budget, age and education of the parents, order of birth of the child, and others. We also took into consideration the age of the children and whether or not they attended preschool institutions or school.

The information excerpted from the case histories was evaluated by experts. Some mean sociohygienic parameters were computed from the chart on living conditions. The fact that the sociological factors were recorded by district nurses who were familiar with the living conditions of children in their district rendered the data obtained more reliable.

As the averaged index characterizing total morbidity we took into consideration the number of illnesses the child had during the year, and as the integral index of the child's health we used the presence or absence of

USSR

UDC 621.314.58 (088.8)

KOVALEV, YU.S., BCGCPOL'SKIY, B. KH. [Gos. proyektno-konstrukt. i n.-i. in-t po avtomatiz. ugov. n. prom-sti--State Planning And Design Scientific-Research Institute For Automatization Of The Coal Industry]

"Device For Control Of Frequency Converter"

USSR Author's Certificate No 256047, filed 25 Oct 65, published 23 Mar 70 (from RZh--Elektronika i yeye primeneniye, No 11, November 1970, Abstract No 11B471F)

Translation: A circuit is proposed for control of the power thyristors of a frequency converter. The device contains a high-frequency oscillator, a low-frequency oscillator, and a 6-phase shift register using low-power thyristors and ferrite transformers. The circuit comprises a supplementary transistor, a controlled low-frequency oscillator, and is connected in parallel with the power supply of the shift register. For realization of reverse, the ferrite transformers each have two coupling windings. 1 ill. L.R.

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Organ and Tissue Transplantation

USSR

SHUMAKOV, V., Professor, and SHCHEGLOV, Yu., and BOGORAD, I., Reporters

"It Will Be a Perfect Automatic Device"

Moscow, Literaturnaya Gazeta, 26 Jan 72, p 12

Translation: Four years ago, Christian Barnard made the first heart transplant. Literaturnaya Gazeta has written articles about this kind of operation. In letters to the editor, readers ask us to tell whether this operation has entered clinical practice, which surgeon has made the largest number of transplants, with what results, and is there a search underway for other ways to save people suffering from serious heart illnesses.

Today we tell about research to create an artificial heart. This work is being done at the Scientific Research Institute of Clinical and Experimental Surgery of the Ministry of Health USSR

Literaturnaya Gazeta reporters Yu. Shcheglov and I Bogorad asked Professor V Shumakov, head of the division of transplantation and artificial organs of the Scientific Research Institute of Clinical and Experimental Surgery, to tell about the prospects of creating an artificial heart.

Question: In what stage is work on the artificial heart at the present time?

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SHUMAKOV, V., et al., Literaturnaya Gazeta, 26 Jan 72, p 12

Answer: In a few years, we have created a large number of different types of experimental models of the heart. We have been helped by a number of industrial enterprises and scientific research institutions. I am not afraid to say that some of these models meet fairly high requirements. But all the same we are still at the very beginning of our path. In our country and abroad, those who are creating the artificial heart run into a large number of difficulties. For example, we still do not have material which meets all necessary conditions. The heart makes 40 million cycles a year. What kind of material should be selected to endure such a load for several years!

There are also other difficulties. For example the development of thrombosis. When blood comes into contact with various "nonliving" materials--plastics or metals -- it coagulates and thrombi are formed. Even the non-specialist understands the consequences of this. Several types of surfacing have now been developed which reduce the likelihood of thrombosis, but we are still not fully satisfied.

Finally, we face problems related to the source of power. The size of the artificial heart now corresponds to the heart of an experimental animal and is placed in its heart pocket. However the current source is outside.

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USSR

SHUMAKOV, V., et al., Literaturnaya Gazeta, 26 Jan 72, p 12

Question: Can we expect that artificial heart models created by you will be introduced into practice in the near future?

Answer: I think that it is possible to answer that question affirmatively.

Question: In your opinion, what new areas of interest in addition to creating an artificial heart are now exciting scientists?

Answer: I am particularly interested in the problem of creating an artificial liver. The liver is an extremely complex organ, an enormous chemical laboratory whose activity has not been completely studied yet. That is why it is not realistic today to make an artificial liver which could precisely copy the human one. If we were able to propose a model which performed even part of the functions of the actual liver, we would consider this an exceptional success.

Question: The possibility of preserving organs is now being intensively studied. What methods of preservation are, in your opinion, most promising?

Answer: We are working on preservation of the kidney and other organs, in particular the heart. Short-term preservation is now done through extreme temperatures. But this permits us to maintain an organ's vitality for just a short period. We have created an original, small-size apparatus in which it

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USSR

SHUMAKOV, V., et al., Literaturnaya Gazeta, 26 Jan 72, p 12

is possible to deliver an organ that has been removed to any point in the country. There the kidney is perfused with special solutions at low temperature. We have raised the "life span" of the removed kidney to 24 hours.

Question: Who helps you design artificial organs and preservation equipment?

Answer: Engineers and mathematicians who are attracted by medicine. For example, they found an algorithm which makes it possible to recognize the degree of vitality of a transplant, and they wired it up on a special computer. Several times we have refused to perform kidney transplants because, using this computer, we determined that irreversible changes have taken place in it and the operation would be doomed to failure.

Question: What ways are there today to solve the problem of the heart transplant?

Answer: Our task is not to perform transplants for their own sake or to demonstrate a virtuoso's technique. Judge for yourself. In Canada, I believe, they calculated the average longevity of patients on whom heart transplants had been performed and patients on whom, for some reason, transplants had not been performed although they came to the clinic for that purpose. It turned out that the first group did not live nearly as long after the operation as

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SHUMAKOV, V., et al., Literaturnaya Gazeta, 26 Jan 72, p 12

the second. That is something for doctors to think about.

With the contemporary state of medicine, are we surgeons able to guarantee longer life or not? In my opinion, this is a very serious problem.

There is a second and equally important side to the matter. Until now the donors have been people for whom specialists had given a diagnosis of so-called cerebral death. In a majority of cases, these patients actually did die. However, in practice, although very rarely, improbable cases still do occur where people with extremely serious injuries who are in a hopeless state recover. Well then, who will guarantee that one of the people from whom it is possible to take a living, beating heart would not have recovered? At the present time, no specialists are, in my opinion, able to do this.

All this naturally leads to a different attitude toward the heart transplant. We will begin to make this kind of operation only when we have appropriate guarantees.

6/6

COLEMAN

BOGORAD, I.

30: NOONSTE DAILY REVIEW
30 NOV 1971

Friday, November 30, 1971

AT THE OPERATING TABLE

By I. Bogorad,
Master of Medicine

Transplantation of Organs
and tissues in the USSR

(Kommunisticheskaya Pravda, November 13, in full.)

As of now, about 200 kidney transplant operations have been made in our country. And the operation, which is no more an experiment, is successfully being introduced in medical practices. The country's leading center in this area is the Research Institute of Experimental and Clinical Surgery under Academician B.V. Petrovsky.

Petrovsky and his group have always been distinguished for his daring approach in science, and constant quests for new techniques. And no wonder so, for he, continuing the investigations of the Russian scientists, successfully made a kidney transplantation in a clinic, in 1955. This was preceded by thousands of experiments, calculations and deliberations, which were sometimes quite unguishing.

Take, for example, the incompatibility of tissues. For a healthy organism, it is both useful and indispensable. This is a highly system of protection from substances alien to the organism as well as from a transplanted organ. So far, the incompatibility mechanism has not been completely explained. It is the main stumbling block for transplantation. Just think of the immense amount of clinical experience, of the tremendous number of means and techniques, their combinations and tactics, that had to be used before it was possible to reduce the incompatibility reaction! Such a thing is possible, now, but not always. The point is that the rejection of the transplanted organ is delayed, but not as long as desirable. Yet, the several extra years lived by the patients, who only recently were faced by the alternative of sudden death or kidney transplant, are a great victory in itself.

The very kidney transplant operation is, conditionally speaking, a "middle stage". Before the operation it is necessary to preserve the vitality of the kidney which will be transplanted. A kidney, isolated and deprived of blood supply, dies, just as any other living tissue. It dies quickly—in 30-40 minutes. The opportunity for making the transplant operation in a matter of minutes is practically

MEDICINE

USSR

UDC 621.374.32

BOGORAD, L.A., Experimental Design Office of Moscow Electrovacuum Instrument Plant

"Multidigit Counter-Pulse Distributor Using Glow-Discharge Thyratrons"

USSR Author's Certificate No 299973, Cl. H 03 k 23/18, filed 4 Apr 68, published 21 May 71 (from RZh-Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 1, Jan 72, Abstract No 1A487P)

Translation: A multidigit counter-pulse distributor using glow-discharge thyratrons is proposed. The device contains decade counters, two coincidence circuits, and a flip-flop with a common plate capacitor between the low-order and high-order digit counters; an OR circuit at the input of each counter; and a reset line. To increase operating speed, some inputs of both coincidence circuits are connected to the inverting input of the low-order digit counter, another input of the first coincidence circuit is connected to the output of the fourth flip-flop of the low-order digit counter. One more input of the second coincidence circuit is connected to the output of the last flip-flop of the low-order digit counter, the output of the first coincidence circuit is connected to the zero input of the flip-flop, and the output of the second coincidence circuit is connected to the unit input of the flip-flop. The flip-flop output is connected to the inverting input of the high-order digit counter and one

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BOGORAD, L.A., USSR Author's Certificate No 299973

of the OR circuit inputs; the output of this circuit is connected to the input of the zero flip-flop of the low-order digit counter. 1 illustration.

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UR 0482

Soviet Inventions Illustrated, Section II Electrical, Derwent, 1/70

243100 FILTER to smooth out pulsations of rectified current has a capacitor connected in parallel to the secondary winding of a transformer. This circuit, consisting of capacitor and filter, is tuned to the frequency of the pulsations. When connected in series with the load, this circuit acts as a wavetrap for the voltage of the ac component of the rectified current. 2.9.66. as 1100906/26-9. Add to 161818 . S.Kh.BOGORAD. Special Design Office No. 1.(16.9.69.) Bul.16/5.5.69. Class 21g. Int.Cl. H03h.

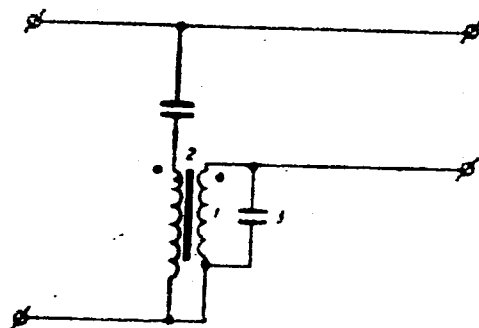
Spetsial'noye Konstruktorskoye Byuro No. 1

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1/2 015
UNCLASSIFIED
TITLE--CATALYST FOR THE SYNTHESIS OF ALCOHOLS BY THE REPPE METHOD -U-
PROCESSING DATE--04DEC70
AUTHOR--(03)-BOGORADOVSKAYA, N.M., IMYANITOV, N.S., RUOKOVSKIY, D.M.
COUNTRY OF INFO--USSR
SOURCE--KINET. KATAL. 1970, 11(3), 584-7
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--CATALYTIC ORGANIC SYNTHESIS, ALCOHOL, ALKENE, ION EXCHANGE
RESIN, TERTIARY AMINE, CATALYST, CHEMICAL REACTION RATE/(U)KU2 ION
EXCHANGE RESIN
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY FICHE NO----F070/605012/D03 STEP NO--UR/0195/70/011/003/0584/0587
CIRC ACCESSION NO--AP0140286
UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0140286

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE REAL CATALYST FOR REPPE
SYNTHESIS OF ALCS. FROM OLEFINS IS THE STRONG ACID H SUB2 FE SUB3 (CO)
SUB11 (I). I WAS PREPD. FROM (HNET SUB3) (HFE SUB3 (CO) SUB11) USING
ION EXCHANGE RESIN KU,2. THE EXPT. REVEALS THAT THE PRESENCE OF A
TERTIARY AMINE IN HTE REACTION MIXT. (OLEFIN CO,H SUB2,CATALYST) CAUSES
A 3000 TIMES LOWER RATE OF ALC. SYNTHESIS. I SYNTHESIS IS REPORTED.
FACILITY: VSES. NAUCH.-ISSLED. INST. NEFTEKHIM. PROTSESS.,
LENINGRAD, USSR.

UNCLASSIFIED

USSR

BOGORAZ, A.

"The Artificial Heart Is Beating"

Moscow, Vechernyaya Moskva, 10 Apr 72, p 2

Abstract: Research is being done at the Scientific Research Institute of Clinical and Experimental Surgery, USSR Ministry of Public Health, to develop an artificial heart which could be used not only while awaiting a donor for heart transplant, but which may eventually be used for the rest of a patient's life. Thus far, experiments conducted with dogs have resulted in survival for a few days following implantation of a plastic heart. The enormous complexities of the heart's functions present great difficulties in the development of an adequate prosthesis. However, researchers are confident that they will achieve complete success in the near future.

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1/2 023 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--ELECTRICAL CHARACTERISTICS OF THE SYSTEM ROCK ICE -U-
AUTHOR--(04)-BOGORODSKIY, V.V., KHOKHLOV, G.P., FEDOROV, B.A., TREPOV, G.V.
COUNTRY OF INFO--USSR **B**
SOURCE--AKAD. NAUK SSSR DOKLADY, V. 190, NO. 1, PP. 88-90 ILLUS., TABLE,
1970
DATE PUBLISHED-----70

SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY
TOPIC TAGS--ROCK, ICE, PERMAFROST, RADIO WAVE ABSORPTION, RADIO SIGNAL

CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3005/1998 STEP NO--UR/0020/70/190/001/0088/0090
CIRC ACCESSION NO--AT0133833
UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AT0133833

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. RESULTS OF INVESTIGATIONS OF THE
ABSORPTION OF A RADIO SIGNAL BY A SYSTEM CONSISTING OF ROCK AND ICE
SUGGEST THAT IT MIGHT BE POSSIBLE TO DEVELOP METHODS OF INVESTIGATING
PERMAFROST BY MEANS OF RADIO WAVES.

UNCLASSIFIED

BOGORODITSKAYA, V. P.

PRESENT STATUS OF AND INVESTIGATIVE OBJECTIVES IN THE MYCOTOXIN PROBLEM

Article by V. P. Bogoroditskaya, Institute of Nutrition, USSR Academy of Medical Sciences, Moscow, Moscow, Vestnik Akademii Meditsinskikh Nauk SSSR, Russian, No 2, 1972, pp 30-31

UDC: 576.882.8.097.25

JPRS 55567
29 Mar 72

An increasing number of reports is appearing in the world literature indicating that microscopic fungi are beginning to threaten human health in different countries, invading foods and fodder. For this reason, the interest in mold fungi and their toxins is increasing immeasurably with each passing year.

The last decade is characterized by the discovery of a considerable number of highly dangerous toxins, the metabolites of microscopic fungi, among which most attention is drawn to the group named aflatoxins (Technical Reports, No 106, Microbiological Specifications and Testing Methods for Irradiated Food).

The aflatoxin problem emerged in 1960, in connection with a mysterious disease in young turkeys in British farms which was characterized by involvement of the liver and rapid death of the fowl. The disease was named X-neck-chole, pigs, and calves. Analogous diseases were then noted among ducklings, chickens, pigs, and calves. The common factor in all these cases was the presence in the animals' food of Brazilian peanut (ground nut) flour. Examination revealed that this flour is toxic for animals and is inundated with fungus hyphae. The microscopic fungi isolated were identified as Aspergillus (flavus Link, and the toxic substance produced by them were named aflatoxins (Bogom).

This problem made it imperative to rapidly resolve several important theoretical and practical problems and to pursue special investigations in which scientists from many countries participated to study the effect of aflatoxin on various biological systems.

Foreign investigators from the USA, England, Japan, and other countries identified the chemical nature of the toxin. Its chemical, biochemical, toxicological, and biological properties have also been investigated to some

1/2 026 UNCLASSIFIED PROCESSING DATE--02OCT70
TITLE--HYGIENIC INVESTIGATION OF FOOD PRODUCTS CANNED WITH AN ANTIBIOTIC
NYZINE -U-
AUTHOR--(03)-BUGURODITSKAYA, V.P., SHILLINGER, YU.I., OSIPOVA, I.V.
COUNTRY OF INFO--USSR *B*
SOURCE--GIGIYENA I SANITARIYA, 1970, NR 5, PP 37-40
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--FOOD CANNING, ANTIBIOTIC, TOXICITY/(U)NYZINE ANTIBIOTIC

CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FAME--1992/1643 STEP NO--UR/0240/70/000/005/0037/0040
CIRC ACCESSION NO--AP0112637
UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--02JCT70

CIRC ACCESSION NO--AP0112637

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. VEGETABLE PRODUCTS CANNED WITH AN ANTIBIOTIC NYZINE WERE EXAMINED FOR RESIDUAL CONTENT OF THE COMPOUND. GREEN PEAS WERE FOUND TO CONTAIN FROM 25 TO 40 MG AND POTATOES AND TOMATOES UP TO 100 MG OF NYZINE PER KILOGRAM WEIGHT OF THE PRODUCT EXAMINED. THESE PRODUCTS HAD NO NOXIOUS EFFECT ON EXPERIMENTAL MICE. NYZINE MAY BE CONSIDERED TO BE NONTOXIC IN AMOUNTS IT IS USED IN FOOD CANNING INDUSTRY. FOOD PRODUCTS TREATED WITH NYZINE ARE QUITE INNOCUOUS AND MAY BE USED WITHOUT RESTRICTIONS. FACILITY: INSTITUT PITANIYA AMN SSSR, MOSCOW.

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Devices

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UDC 621.397.7

BAKHTOB, I. S., KLYKOV, S. I., ~~BOGORODSKIY~~, G. N., MINEYEV, V. V. [Tsentr. n.-i. in-t svyazi--Central Scientific-Research Institute of Communications]

"Device for Shaping of Video Signal for Facsimile Apparatus"

USSR Author's Certificate No 253123, Filed 31 May 68, Published 23 Jan 70
(from RZh--Elektrosvyaz, No 9, Sep 70, Abstract No 9.64.229P)

Translation: A device is proposed which differs from those known by the fact that the output of the video signal at the transmitting end is connected through a white level stabilizer to series-connected units for shaping the pulse height and to two duration shapers connected through an inverting amplifier. At the receiving end, the output of a low-frequency filter is connected through a trigger with a single-threshold circuit and an inverting amplifier to identical series-connected duration shapers, which are separated by the inverting amplifier. The device proposed makes it possible to increase the freedom from noise of the transmitted facsimile signals with simultaneous correction of the aperture distortions. One illustration. G. M.

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USSR

UDC 621.397.611:681.846.7

BOGORODSKIY, Yu. L., and LISHIN, L.G., All-Union Scientific Research Institute of Television and Radio Broadcasting

"Methods for Checking Magnetic Heads in Video Magnetophones"

Moscow, Tekhnika Kino i Televideniya, No 7, Jul 72, pp 29-37

Abstract: Principal testing methods of magnetic heads of video magnetophones developed by the All-Union Scientific Research Institute of Television and Radio Broadcasting are reported. Parameters and characteristics of magnetic heads, the measuring of their inductance and quality, and determinations of their effectiveness and sensitiveness and of parameters of the limiting reduced characteristic are discussed. Voltmeter and oscillographic measuring methods are described. The measuring of frequency characteristics of the band-head system of video magnetophones is discussed by reference to flow charts for two test beds. It is concluded that the magnetic heads for video recording have to be testified according to a sole method. The method developed by the All-Union Scientific Research Institute of Television and Radio Broadcasting is recommended as framework. It is based on measuring limiting frequency characteristics, the current of recording, and quality characteristics of frequencies. Seventeen illustr., two tables, four formulas, twelve biblio. refs.

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BOGOROV, V. and USHAKOV, S.

"'Vityaz' in the Oceans"

Moscow, Vodnyy Transport, 3 April 1971, p 3

Abstract: Vladivostok ... Soon the expeditionary ship "Vityaz'" will leave Zolotoy Rog Bay and begin its 50th scientific research cruise. The ship will again sail on an extended voyage. In the present stage of the utilization of the ocean's food resources, great importance is attached to the problem of increasing its biological and economic productivity. This requires the development of a theory of control in the biological systems of the "deep continent." On the forthcoming voyage Soviet scientists will continue the work begun earlier by the "Vityaz'" on this urgent problem. Well-known oceanographers of many institutes of our country will participate in the expedition. The research program will be headed by Doctor of Biological Sciences Professor M. Vinogradov. The scientists' investigations will encompass a large area in the tropical regions of the Pacific Ocean.

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1/2 028 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--PATHOLOGICAL CHANGES OF THE CARDIO VASCULAR SYSTEM CAUSED BY
ANTIBIOTICS -U-
AUTHOR-(02)-ASHBEL, S.I., BOGOSLOVSKAYA, I.A.
COUNTRY OF INFO--USSR
SOURCE--TERAPEVTICHESKIY ARKHIV, 1970, VOL 42, NR 4, PP 55-59
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--DRUG INDUSTRY, ANTIBIOTIC, CARDIOVASCULAR SYSTEM, SELECTIVE
DRUG EFFECT, ELECTROCARDIOGRAPHY, INDUSTRIAL MEDICINE, PENICILLIN,
STREPTOMYCIN
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3005/1452 STEP NO--UR/0504/70/042/005/0055/0059
CIRC ACCESSION NO--AP0133390
UNCLASSIFIED

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PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0133390

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE AUTHORS EXAMINED 215 PATIENTS (PERSONS ENGAGED IN PENICILLIN AND STREPTOMYCIN PRODUCTION AND NURSES) SUFFERING FROM OCCUPATIONAL DISEASES CAUSED BY THE MENTIONED ANTIBIOTICS AND FOUND PATHOLOGICAL CHANGES IN THE MYOCARDIUM AND VESSELS IN A GREAT NUMBER OF CASES. THE PATIENTS COMPLAINED OF PATHOLOGICAL SENSATIONS IN THE HEART, AND ELECTROCARDIOGRAPHIC STUDIES REVEALED VARIOUS CHANGES IN THE MAJORITY OF PATIENTS (63.7PERCENT). ALMOST HALF OF THE PATIENTS DEMONSTRATED BALLISTOCARDIOGRAPHIC CHANGES OF THE II.III AND IV DEGREE ACCORDING TO BROWN'S CLASSIFICATION. ARTERIAL DYSTONIA, IN MOST OF THE CASES RUNNING A HYPERTENSIVE TYPE COURSE, WAS REVEALED IN 25PERCENT. THERE WERE OFTEN OBSERVED DISORDERS OF PERMEABILITY AND A LESSENING OF THE CAPILLARY ELASTICITY. THE ABOVE MENTIONED PATHOLOGICAL CHANGES OF THE CARDIOVASCULAR SYSTEM DEVELOPED IN COMBINATION WITH OTHER PATHOLOGICAL CHANGES OCCURRING IN DIFFERENT ORGANS IN PRACTICALLY HEALTHY PERSONS.

FACILITY: KLINICHESKIY OTDEL GOR'KOVSKOGO N-1
INSTITUTA GIGIYENY TRUDA I PROFZABOLEVANIY MINISTERSTVA
ZDRAVOOKHRANENIYA RSFSR.

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UDC 612.821.7+612.822.3.08

KAPLUNOVSKIY, A. S., and BOGOSLOVSKIY, M. M., Department of Ecological Physiology, and Physiological Department imeni I. P. Pavlov, Institute of Experimental Medicine, Academy of Medical Sciences USSR, Leningrad

"The Use of Factor Analysis for the EEG Character of Sleep"

Leningrad, Fiziologicheskii Zhurnal SSSR imeni I. M. Sechenov, Vol 59, No 8, Aug 73, pp 1291-129

Abstract: The use of factor analysis to compare simultaneous processes and interconnections of the EEG of various areas of the neuronally isolated cerebral cortex during wakefulness and sleep is discussed. This method consists of calculating correlation and factor matrices, finding the correlation efficiency K, constructing matrices for K, factoring them and applying biplot analysis. The analysis of the EEG of intact and isolated cats is given as an example. From the various factors isolated the authors conclude that wakefulness and light sleep are connected with the motor and parietal regions of the isolated cortex, while deeper sleep is connected with the occipital region, both isolated and intact, and slow wave and REM sleep are connected with the parietal region of the intact cortex.

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UDC 612.825

BOGOSLOVSKIY, M. M., KHANANASHVILI, M. M., ZARKESHEV, E. G., Physiological Department imeni I. P. Pavlov, Scientific Research Institute of Experimental Medicine of the USSR Academy of Medical Sciences

"Neurophysiological Characteristic of the Isolated Structures of the Cerebral Cortex"

Moscow, Uspekhi Fiziologicheskikh Nauk, Vol 4, No 2, 1973, pp 55-100

Abstract: A survey was made of the literature on the neurophysiological characteristic of preparations of an isolated strip of the cortex and the isolated cortex. Data are presented on the background and the forced electrical activity of the preparations under conditions of macro and microleads and also biochemical and pharmaceutical studies of them. The procedure for preparing the isolated strip of cortex, the morphological characteristic of the cortex section subjected to isolation, the background electrical activity of the isolated cortical strip in acute and chronic experiments, the metabolic processes in the isolated cortical section, the electrical activity in the section in response to electrical and chemical stimulation of it and other effects, the intracortical interaction in the section, the procedure for isolating the entire cerebral cortex, its morphological nature, background electrical activity, electrical activity in response to electrical stimulation, convulsive electrical activity

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BOGOSLOVSKIY, M. M., et al., Uspekhi Fiziologicheskikh Nauk, Vol 4, No 2, 1973, pp 55-100

in the isolated cortex, the pharmacological effect on the electrical activity time relations in the isolated cortex and variations of isolating the cortex of one lobe are discussed. Sample recordings of the cortical activity under the various conditions and histograms of the first conditioning and pseudoconditioning cycles are given. In spite of the clearly pathological picture of the background electrical activity of the preparations, they permitted the study of some important properties of the cerebral cortex. Proof was obtained not only of the presence of characteristic cortical macro and cellular activity and the capacity of the cortical tissue to respond to direct stimulation, but also the peculiarities of retaining an even better exhibited regionality and electrical activity of the preparation of the completely isolated cortex of one lobe. The study of the pharmacological effects on the isolated cortex established the fact that the cortical cells relieved of two-way communications with the sub-cortex can form traces of stimuli applied to them. The time relation model permits the study of characteristically cortical features of the switching activity of the brain.

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USSR

UDC: 621.357.7

BOGOSLOVSKIY, V. V., TYUTINA, K. M., MUZYCHENKO, L. A., KUDRYAVTSEV, N. T.

"Optimization of the Process of Electrodeposition of Nickel-Antimony Alloy"

Moscow, Zashchita Metallov, Vol 9, No 3, Jul-Aug 73, pp 455-456.

Abstract: An experimental-statistical method is used to construct a mathematical model of the process of electrodeposition of shiny nickel-antimony alloy deposits with minimum internal stress. The optimization parameters selected were the diffuse-scattered light intensity and the internal stresses in the alloy, expressed in ocular microscope divisions. The experimental data, following statistical checking, were used to produce two equations to calculate the conditions of deposition of the nickel-antimony deposits with minimum internal stresses: $\text{NiCl}_2 \cdot 6\text{H}_2\text{O}$ 59 g/l; SbF_3 3 g/l; NH_4Cl 21 g/l; NH_4F 41 g/l; $D_c = 0.5-6 \text{ a/dm}^2$; pH 4.5; temperature 70° ; antimony anodes.

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1/2 028
UNCLASSIFIED
TITLE--ANTHRACENE ELECTROLYTE INTERFACE. I. DARK INJECTION OF HOLES DURING
THE ADSORPTION OF IODINE FROM IODINE IODIDE SOLUTIONS -U-
AUTHOR--(02)-LOZHKIN, B.T., BOGULSLAVSKIY, L.I.
PROCESSING DATE--30OCT70
COUNTRY OF INFO--USSR
SOURCE--ELEKTROKHIMIYA 1970, 6(3), 423-5
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--ANTHRACENE, ELECTROLYTE, ADSORPTION, IODINE, PHOTOMETRIC
ANALYSIS, DIPOLE MOMENT
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1998/1142
STEP NO--UR/0364/70/006/003/0423/0425
CIRC ACCESSION NO--AP0121701
UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--300CT70

CIRC ACCESSION NO--AP0121701

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ADSORPTION OF I ON ANTHRACENE WAS DETD. PHOTOMETRICALLY IN AQ. SOLNS. THE SAMPLE WAS SHEKEN FOR 5 MIN IN 3 ML OF THE SOLN. THE ADSORPTION ISOTHERM HAD A PLATEAU AT A DEGREE OF COVERAGE THETA EQUALS 1. AT SMALL CONCNS. THE DEPENDENCE OF THE DEGREE OF COVERAGE ON I CONC. IS A CURVE CONCAVE TOWARDS THE CONC. AXIS; AT A CONC. GREATER THAN 5 TIMES 10 NEGATIVE PRIME2 M, THE AMT. OF ADSORBED I INCREASES LINEARLY, REACHING 9 MONOLAYERS. INCREASE OF I CONC. LEADS TO THE INCREASE OF THE DARK CURRENT, A MARKED INCREASE BEING NOTED FOR CONCNS. GREATER THAN 0.1 M. FROM THE DEPENDENCE OF THE EFFECTIVENESS OF THE I SUBS PRIME0 YIELDS I PRIME NEGATIVE TRANSFORMATION, I. E., OF THE EFFECTIVENESS OF INJECTING HOLES, ON THE DEGREE OF COVERAGE OF THE SURFACE, IT IS ASSUMED THAT THE DIPOLE MOMENT DECREASES WITH THE DEGREE OF COVERAGE AT 0 SMALLER THAN THETA SMALLER THAN 1. INTERACTIONS BETWEEN SLIGHTLY POLARIZED ADSORBED PARTICLES REDUCE THE EFFECTIVENESS OF INJECTING HOLES INTO THE ANTHRACENE. FACILITY: INST. ELEKTROKHM., MOSCOW, USSR.

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UNCLASSIFIED

PROCESSING DATE--23 OCT 70

TITLE--CERTAIN POSSIBILITIES OF APPLICATION OF PRINCIPLES OF OPTO
ELECTRONICS FOR IMPROVEMENT OF MEASURING INSTRUMENTATION -U-
AUTHOR--(05)-BOGOSLAVSKIY, G.E., MOLCHANOV, A.A., OLEKSENKO, P.F.,
SVECHNIKOV, S.V., SITNIKOV, L.S.
COUNTRY OF INFO--USSR

SOURCE--MOSCOW, IZMERITEL'NAYA TEKHNIKA NO 1, JAN 70, PP 5-8

DATE PUBLISHED----JAN 70

SUBJECT AREAS--METHODS AND EQUIPMENT, ELECTRONICS AND ELECTRICAL ENGR.,
PHYSICS
TOPIC TAGS--ELECTROOPTIC MEASURING EQUIPMENT, ELECTRIC MEASURING
INSTRUMENT, ELECTROLUMINESCENCE, PHOTORESISTOR

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRA--1997/0393

STEP NO--UR/0115/70/000/001/0005/0008

CIRC ACCESSION NO--AP0119338

UNCLASSIFIED

2/3 027

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0119338

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THIS ARTICLE PRESENTS THE RESULTS OF INVESTIGATIONS ON THE POSSIBILITIES OF APPLYING THE PRINCIPLES OF OPTO ELECTRONICS TO THE DESIGN OF ELECTRIC MEASURING INSTRUMENTS AND CONVERTERS OF VARIOUS PHYSICAL VALUES INTO VOLTAGE AND FREQUENCY. THE ADVANTAGES OF OPTO ELECTRONIC METERING DEVICES WITH RESPECT TO POINTER TYPE INSTRUMENTS ARE STRESSED. ONE OPTO ELECTRONIC SHIFT REGISTER BASED ON THE USE OF AN INTERNAL PHOTO EFFECT PHENOMENON AND ELECTROLUMINESCENCE IS DESCRIBED AND ITS SCHEMATIC DIAGRAM IS GIVEN. THE DESIGN CALCULATIONS OF THIS REGISTER ARE PRESENTED. THEY ARE REDUCED TO A CALCULATION OF THE ELECTROLUMINESCENCE AND PHOTORESISTOR LAYERS PARAMETERS, TO DETERMINATION OF THE STRUCTURAL FEATURES RELATED TO THE TRANSMISSION OF LIGHT FLUX AND, CONSEQUENTLY, OF VOLTAGE. TESTS OF THE REGISTER PROTOTYPE, CONDUCTED JOINTLY BY THE INSTITUTE OF SEMICONDUCTORS OF THE UKRAINIAN ACADEMY OF SCIENCES AND THE DESIGN BUREAU OF THE KIEV "TOCHELEKTROPRIBOR" PLANT, CONFIRMED ITS EFFICIENCY. THE OPTO ELECTRONIC DEVICES, WHICH ARE THE DEVELOPMENT OF THE SHIFT REGISTER SUCH AS: 1) A METERING DEVICE WITH NO MECHANICAL JOINT, BUT WITH A CODED OUTPUT, ENSURING THE DELIVERY OF DATA TO A DIGITAL DEVICE; AND 2) A DEVICE FOR AUTOMATIC PARTICLE COUNTING AND DETERMINING THEIR SIZE, ARE DESCRIBED. THIS DEVICE ALLOWS THE SORTING OF DATA ON OBJECT PRESENCE AS WELL AS ON ITS SURFACE, WITHOUT USING A COMPLEX APPARATUS OF STATISTICAL APPROXIMATION, USED IN THE ANALOG DEVICES.

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PROCESSING DATE--23GCT70

CIRC ACCESSION NO--AP0119338

ABSTRACT/EXTRACT--A WORKING MODEL OF AN OPTO ELECTRONIC DECODER FOR TWO
DECADES, WITH OUTPUT ON GAS DISCHARGE INDICATORS OF 10 TIMES 40 TIMES
30MM OVERALL DIMENSIONS, WITHOUT HIGH VOLTAGE TRANSISTORS, WAS
CONSTRUCTED RECENTLY BY THE INSTITUTE OF SEMICONDUCTORS TOGETHER WITH
THE INDEPENDENT DESIGN BUREAU OF THE KIEV "TOCHELEKTROPRIBOR" PLANT.
THE ADVANCED TECHNOLOGY OF SUCH DECODERS TOGETHER WITH THE REDUCTION OF
THEIR DIMENSIONS MAKES IT POSSIBLE TO ENVISAGE THE REDUCTION OF THEIR
PRICES. IT IS CONCLUDED THAT AMONG THE MULTIPLE WAYS OF IMPROVING THE
MEASURING INSTRUMENTS, THE APPLICATION OF OPTO ELECTRONIC PRINCIPLES IS
A VERY PROMISING ONE.

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1/2 010

UNCLASSIFIED

PROCESSING DATE--27NOV70

TITLE--ROENTGENODIAGNOSIS OF CHANGES OF THE OSTEOARTICULAR APPARATUS IN
CHILDREN SUFFERING FROM NON SPECIFIC INFECTIOUS ,RHEUMATOID, ARTHRITIS
AUTHOR-(03)-MIRIMOVA, T.D., YAKOVLEVA, A.A., BOGOSLOVSKAYA, V.A.

COUNTRY OF INFO--USSR

SOURCE--VOP OKHR MATERIN DET 15(1): 67-71. ILLUS. 1970

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--RHEUMATIC DISEASE, X RAY STUDY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRA--3009/0144

STEP NO--UR/0608/70/015/001/0067/0071

CIRC ACCESSION NO--AP0129009

UNCLASSIFIED

2/2 010

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0129009

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ROENTGENOLOGICAL EXAMINATION WAS MADE OF 1,168 JOINTS IN 225 CHILDREN SUFFERING FROM RHEUMATOID ARTHRITIS. A COMPARATIVELY BENIGN JOINT FORM OF RHEUMATOID ARTHRITIS WAS SEEN IN 134 PATIENTS, AND A SEVERE JOINT VISCERAL FORM IN 91. THE EXTENT OF ROENTGENOLOGICAL CHANGES DEPENDED ON THE FORM OF THE DISEASE. IN CHILDREN LOCALIZATION AND THE INCIDENCE OF AFFECTION OF THE JOINTS SOMEWHAT DIFFERED FROM THOSE IN ADULTS. BESIDES, A DIFFERENTIAL FEATURE OF RHEUMATOID ARTHRITIS IN CHILDHOOD IS THE CHARACTER AND THE EXTENT OF INJURY OF THE NUCLEI OF OSSIFICATION, DISTURBANCE OF THEIR GROWTH AND DEVELOPMENT, AND, CONSEQUENTLY, DERANGEMENT OF THE CHILD'S GROWTH. FACILITY: INST. PEDIAT., ACAD. MED. SCI. USSR, MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 543.7+535.379

DUBOVENKO, L. I., ~~BOGOSLOVSKAYA, T. A.~~

"Relation between the Decomposition Rate of Hydrogen Peroxide and the Chemiluminescent Reaction in the Luminol-Mercury (II)-Hydrogen Peroxide System"

Kiev, Ukrainskiy Khimicheskiy Zhurnal, Vol XXXVIII, No 6, 1972, pp 617-620

Abstract: A study was made of the decomposition rate of a $6 \cdot 10^{-3}$ molar solution of H_2O_2 in the presence of mercury ions (II) and a mixture of it with luminol (L) in an alkaline medium for various pH and a temperature of 20° . The data obtained were compared with the kinetics of chemiluminescence and the duration of luminescence under identical conditions. The optimal pH conditions in the L-Hg (II)- H_2O_2 system coincide with the region of fastest decomposition of H_2O_2 . Thus, one of the causes of extinguishing of luminescence is accelerated decomposition of the H_2O_2 in the presence of the mixture of Hg(II) with L. During the chemiluminescence process of the reaction, the Hg(II) is consumed first, being reduced to Hg(I). This also leads to extinguishing of the luminescence before oxidation of all of the luminol.

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USSR

UDC 617.735-073.97:615.849.19

BOGOSLOVSKIY, A. I., URMAKHER, L. S., VOLKOVA, A. D., ZHDANOV, V. K., and SHAPIRO, Ye. I., Laboratory of Physiological Optics imeni S. V. Kravkov and Moscow Scientific Research Institute of Eye Diseases imeni Helmholtz

"The Laser Electroretinogram"

Moscow, Vestnik Oftal'mologii, No 2, 1973, pp 3-6

Abstract: By applying stimulation of the eye in tolerated doses with radiation at approximately 630nm emitted by a He-Ne laser of type IG-50, pure cone electroretinograms of rabbits and humans were obtained. The output power of the laser was 0.2 mwt and the power at the retina ≤ 0.15 mwt. Short stimuli with a duration of 0.02 or 0.4 sec and intervals of 1 min between them were applied. Under conditions of adaptation to a weak source of daylight (illumination at the eye approximately 3 lux), the electroretinograms were due solely to the bioelectric activity of the cones. Under conditions of dark adaptation, the rod apparatus of the retina began to participate in the reaction. Laser electroretinograms of humans were obtained for the first time in the work described. Experiments with ruby and Ar lasers are being conducted at present in an expanded stage of the investigation.

1/1

USSR

UDC 612.014.44:612.825.251

BOGOSLOVSKY, A. I., ZHDANOV, V. K., KOVAL'CHUK, A. G., SEMENOVSKAYA, Ye. N.
and SHAMSHINOVA, A. M., Moscow Scientific Research Institute of Eye Diseases
imeni Helmholtz

"Light-Induced Visual Cortical Potentials in Man"

Moscow, Doklady Akademii Nauk SSSR, Vol 201, No 3, 1971, pp 721-723

Abstract: In an investigation performed on 49 healthy men and women, evoked potentials were recorded from the visual cortex (one electrode over the area representing the macula lutea and the other electrode 3 cm higher along the median line) while the subjects looked at intermittent flashes of photopic and scotopic light. Averaged EEG records revealed the presence of evoked potentials in response to not only photopic but also scotopic stimuli, although in the latter case the evoked potentials were less numerous and had a different pattern and a longer latent period. Simultaneous auditory stimulation (800 cyc/sec, 85 db) reduced the amplitude of the potentials evoked by scotopic stimuli but did not change the potentials evoked by photopic stimuli. The exact mechanism of action and the significance of the findings remain to be elucidated.

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BOGOSLOVSKIY, M. M.

STATUS OF SLEEP IN PERSONNEL PASSING THE WINTER AT MINERV OBSERVATION

JPRS 53932
9 MAR 72

[Article by M.M. Bogoslovskiy, Institute of Experimental Medicine, Academy of Medical Sciences, USSR, Leningrad, Informatsionnyy Zhurnal, September 15 December 1970, pp 107-110]

The problem of sleep in the polar regions has interested researchers for a long time (2, 3, 4, 5, 6, 7, 8, 9, 10). This is connected with the fact that changes in the control nervous system during sleep undoubtedly constitute an important part of adaptive processes occurring in the human organism under the unusual conditions of wintering in the Antarctic. In addition, a study of sleep under the conditions of winter in the Antarctic, especially at the intercontinental stations, may serve as a model for its study under conditions appropriate space flight, particularly the flight conditions of the scientific-technical personnel of an earth orbital station.

The present article presents characteristics of the sleep of polar personnel of the Army Observatory during the four-month winter Antarctic expedition, studied by the questionnaire and actographic methods. The study involved personnel of the polar personnel (60 percent of the winter party at the observatory), aged 25 to 54 years.

In the course of the questioning it was found that sleep disorders occurred in 11 persons at the beginning of the year (lasting from one week to two months), in seven persons in the middle of the year (from one week to one month) and at the end of the year in four persons (up to two weeks). One person experienced sleep disorder for the entire year.

The study was conducted in three periods (January-April, May-August and September-December).

The sleep disorder consisted of difficulty in falling asleep in

First Period	7 persons (up to 3 hours after retiring to bed)
Second Period	4 persons (up to 5 hours)
Third Period	2 persons (up to 3 hours)

and in waking without cause during the night in

Acc. Nr: **AP0044117**

Ref. Code: **UR**
0660

PRIMARY SOURCE: *Neyrofiziologiya*, 1970, Vol 2, Nr 1, PP **52-58**

THE REGIONAL PECULIARITIES OF BACKGROUND ACTIVITY AND DIRECT
RESPONSES OF THE INTACT AND NEURONALLY ISOLATED CORTEX

M. M. Khananashvili, M. M. Bogoslovskiy, E. G. Zarkeshev

Institute of Experimental Medicine,

Academy of Medical Sciences, USSR, Leningrad

Summary

In acute and chronic experiments background electrical activity as well as thresholds of direct cortical responses (DCR) were studied in cats with the intact or neuronal-isolated cortex of the whole hemisphere [10]. It was found out that in intact animals the suprasylvian gyrus, its medial part particularly, is characterized by a higher electrical activity and lower thresholds of direct responses as compared with the ectosylvian gyrus. These differences do not change after neuronal isolation of the cortex from sub-cortical structures. Conclusion is made that the differences in neurophysiological characteristics of different gyri reflect their own peculiarities and are not mediated by subcortical nervous influences.

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REEL/FRAME
19770598

2 DI

USSR

UDC 547.254 + 547.27 + 547.279

LAPKIN, I. I., BOGOSLOVSKIY, N. V., and ZENKOVA, N. I.

"Selenoorganic Compounds. III. A new Synthetic Method for Selenides"

Leningrad, Zhurnal Obshchey Khimii, Vol 42 (104), No 9, Sep 72, pp 1972-1974

Abstract: In a continuation of their studies on the synthesis of selenides based on the reaction of formate esters with an equimolar mixture of bromo-magnesium carbinoxides and selenophenoxides, the limits of the reaction were determined. The following compounds can be used in the synthesis: $RC_6H_4CH_2OMgBr$, $RC_6H_4C(CH_3)HOMgBr$, $RC_6H_4C(CH_3)_2OMgBr$, giving high yields of corresponding bromides when reacted with ethyl formate. When primary or secondary radicals are attached to the α -carbon atom (in respect to the phenyl ring), the reaction cannot take place, since such compounds have a tendency to dehydrate, forming styrenes which are easily polymerized.

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1/2 020 UNCLASSIFIED PROCESSING DATE--09OCT70
TITLE--THE HEMODYNAMICS IN COUNTER PULSATION -U-

AUTHOR--(05)-CHAZOV, YE.I., BOGOSLOVSKIY, V.A., MAZAYEV, V.P., RUDA, M.YA.,
TRUBETSKOY, A.V.
COUNTRY OF INFO--USSR

SOURCE--EKSPERIMENTAL'NAYA KHIRURGIYA I ANESTEZOLOGIYA, 1970, NR 2, PP
23-30
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--HEART RATE, BLOOD PRESSURE, HEMODYNAMICS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1990/0642

STEP NO--UR/0481/70/000/002/0023/0030

CIRC ACCESSION NO--AP0108853

UNCLASSIFIED

2/2 020

UNCLASSIFIED

PROCESSING DATE--0900170

CIRC ACCESSION NO--AP0108853

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. UNDER THE INFLUENCE OF COUNTER PULSATION THE HEART RATE DROPS SLIGHTLY, THE MAXIMAL AND MEAN SYSTOLIC ARTERIAL PRESSURE DECLINES AND MAXIMAL DIASTOLIC ARTERIAL PRESSURE INCREASES. THE RISE OF THE MEAN DIASTOLIC ARTERIAL PRESSURE WAS LESS MARKED BUT WAS STATISTICALLY SIGNIFICANT. THERE WAS AN ESSENTIAL DROP OF THE TERMINAL DIASTOLIC ARTERIAL PRESSURE AND NO CHANGES OF THE MEAN ARTERIAL PRESSURE. INCREASE OF THE CARDIAC OUTPUT AND ACCELERATION OF THE CIRCULATION RATE WERE INSIGNIFICANT. THE EXTERNAL WORK OF THE LEFT VENTRICLE AGAINST THE BACKGROUND OF COUNTER PULSATION COMPRISED ONLY 84PERCENT FROM THE INITIAL VALUE. THE TIME CONTRACTION INDEX DECREASED BY 24PERCENT. THE GENERAL PERIPHERAL RESISTANCE AGAINST THE BACKGROUND OF ASSISTED PERFUSION MODERATELY DECLINED. THE AUTHORS SHOW THAT A NUMBER OF GENERALLY ACCEPTED INDICES COULD NOT ADEQUATELY REFLECT THE FUNCTIONAL STATE OF THE HEART DURING COUNTER PULSATION. A REGULARITY WAS NOTED THAT THE INFLUENCE OF PERFUSION ON ALL HEMODYNAMIC INDICES BECAME MORE PRONOUNCED SOME TIME AFTER THE BEGINNING OF PERFUSION.

FACILITY: INSTITUT KARDIOLOGII IM. A. L. MYASNIKOVA AMN SSSR, MOSCOW.

UNCLASSIFIED

BOGOSLOVSKIY, V. M.

Molecular Physics

USSR

UDC: 539.219.3:669.01

ARKHANOV, V. I., Academician of the Academy of Sciences of the UkrSSR,
BABOSYUK, A. L., BALANAYEVA, N. O., BOGOSLOVSKIY, V. M., KOVALENKO,
L. D., STAFYEYEV, N. M., Donetsk Physicotechnical Institute, AS UkrSSR

"Investigation of the Kinetics of Growth of Layers in Two-Phase Scales"

Kiev, Dopovidi Akademii Nauk Ukrain's'koi URSS, Seriya A: Fiziko-
-Tekhnichni ta Matematychni Nauki, No 4, Apr 71, pp 341-344

Abstract: The authors investigate the kinetics of growth of layers of scale formed when Armco iron is oxidized at a temperature of 540°C and when cobalt is oxidized at 650°C. It is shown on the basis of experimental data that a layer of Fe_3O_4 forms when iron is oxidized in air, while the Fe_2O_3 layer on iron remains practically unchanged after a certain thickness is reached. In the case of cobalt, an increase is observed in the thickness of the Co_3O_4 layer, while the thickness of the CoO phase remains constant. These results are attributed to the imperfection of the oxides from which the scale is formed and to the collective participation of atoms in matter transfer.

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USSR

UDC 532.526.2

BOGOVAYA, L. I. (Leningrad)

"Universal Equations of the Laminar Boundary Layer on a Body of Revolution in an Oblique Gas Flow"

Moscow, Izvestiya Akademii Nauk SSSR, Mekhanika Zhidkosti i Gaza, No 4, 1973, pp 32-41

Abstract: Consideration is given to the problem of the laminar movement of a gas in the boundary layer on a body of revolution at an angle of attack. The problem is solved by means of the parametric method of L. G. Loytsyanskiy. The influence of the external stream and the shape of the body in the stream is taken into account by the introduction of three series of parameters. A corresponding system of universal equations is obtained, which is numerically integrated throughout a wide range of variation of parameters. The results of the calculation permit a judgment to be made concerning the general rules governing flow in the boundary layer on a body of revolution in an oblique gas flow. 3 figures. 6 references.

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USSR

UDC: 669.546.77

NOVAK, V. P., BOGOVINA, V. I., BEDOVIK, S. S. and MAL'TSEV, V. F., All-Union Scientific Research, Design and Technological Institute of the Pipe Industry

"Photometric Determination of Molybdenum in Nickel-Base Alloys in the Form of a Molybdenum-Unithiol Complex"

Moscow, Zavodskaya laboratoriya, Vol 37, No 10, 1971, pp 1170-1171.

Abstract: Discussed is the use of unithiol as a reagent for the photometric determination of molybdenum in steels without the separation of accompanying elements. The optimal conditions for the complex formation are: 0.5 n. hydrochloric acid, maximum light absorption -- 345 nm, color intensifies with time and maximum color is achieved after 5 mins. The presence of Fe(II), Cr(III), Ni and Co in ratios (to molybdenum) of 1:80, 1:40, 1:40 and 1:10, respectively, will not interfere with the analysis. Maximum optical density of the solution is achieved after prolonged standing. The reaction rate increases with temperature. An excess of the reagent promotes intensifi-

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USSR

NOVAK, V. P., et al, Zavodskaya laboratoriya, Vol 37, No 10, 1971, pp 1170-1171

cation of color in the molybdenum-unithiol complex. An analytical procedure for molybdenum determination in EI-844B and EI-929 steel grades is described. The relative error is 3%. (3 illustrations, 1 table).

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BOGOYAVLENSKAYA, I. N.

SPS 51208
6-73

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XIV-9. EFFECT OF ADMIXTURES ON THE STRUCTURE AND HABITUS OF FILAMENTARY CRYSTALS OF SILICON GROWN BY THE METHOD OF GAS TRANSPORT REACTIONS

[Article by V. V. Bogoyavlenskaya, I. N. Bogoyavlenskaya, L'vov; Novosibirsk. III Sbornik po Poluprovod. i Silikon. Poluprovodnikovye Kristallovy I. Prikl. Russian, 17-17 June 1972, p 201]

On the basis of studying the morphology of the facets of filamentary silicon crystals grown from the gas phase, the conclusion was drawn regarding the layered-spiral mechanism of crystal growth. The effect of admixtures and their concentration on the faceting and the habitus of the filamentary silicon crystals was established. The admixtures, the atomic volumes of which differ significantly from the atomic volume of silicon affect the habitus of the crystals. The faceting of the crystals depends on the relation of the concentrations of the surface-inactive and surface-active admixtures.

The admixtures adsorbed on the surface change the surface energy of the faces of the crystal which leads to variation of the relation of the growth rates of the various facets. The estimate of the growth rates of different crystallographic faces was made from a comparison of the etching and evaporation rates in a vacuum of the corresponding facets of the filamentary silicon crystals.

A study was made of the admixture distribution in the filamentary crystals of silicon by the chemical etching method. A qualitative estimate of the distribution of the admixtures is represented by the dependence of the etching rate on the distance between the center and the facet of the crystal.

The structural peculiarities of filamentary silicon crystals grown from different admixtures were studied by the method of internal friction in the temperature range of -100 to 700° C. In the negative temperature range on the curve for the dependence of the internal friction, relaxation peaks were detected: at a temperature of -23° C and a frequency of 1.775 hertz in filamentary silicon crystals alloyed with boron; at a temperature of -68° C and a frequency of 2.144 hertz, in filamentary silicon crystals alloyed with copper. The habitus of the relaxation peaks was established as a function of the degree of alloying of the crystals.

1/2 017 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--PREPARATION OF IMMUNE ASCITIC FLUIDS CONTAINING ANTIBODIES AGAINST
SALMONELLA ON RATS -U-
AUTHOR-(04)-BOGUYAVLENSKAYA, L.B., ALTSHTEYN, A.D., BOCHAROVA, N.G.,
TSETLIN, YE.M.
COUNTRY OF INFO--USSR
SOURCE--ZHURNAL MIKROBIOLOGII, EPIDEMIOLOGII I IMMUNOBIOLOGII, 1970, NR 5,
PP 80-83
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--SALMONELLA, ANTIBODY, WHITE RAT, IMMUNOLOGY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRA--1994/0100

STEP NO--UR/0016/70/000/005/0080/0083

CIRC ACCESSION NO--AP0114496

UNCLASSIFIED

2/2 017

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0114496

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE AUTHORS DEMONSTRATED THE POSSIBILITY OF OBTAINING ASCITIC FLUID FROM ALBINO RATS BY THE METHOD OF INTRAPERITONEAL INJECTION OF TUMOR CELLS OF OR STRAIN. FOR THE FIRST TIME THERE WERE OBTAINED IMMUNE ASCITIC FLUIDS CONTAINING ANTIBODIES TO VARIOUS SALMONELLA ANTIGENS. IT WAS SHOWN THAT REGULARITIES OF FORMATION OF ANTIBODIES IN RATS WERE IDENTICAL TO THESE REGULARITIES IN OTHER EXPERIMENTAL ANIMALS (RABBITS, SHEEP). IT IS RECOMMENDED TO USE ALBINO RAT AS A MODEL FOR IMMUNOLOGICAL EXPERIMENTS IN STUDYING SPECIFIC ANTIBODIES TO SALMONELLAE. FACILITY: KONTROL'NYI INSTITUT MEDITSINSKIKH BIOLOGICHESKIKH PREPARATOV IM. TARASEVICH.

UNCLASSIFIED

USSR

UDC 615.371:576.851.49].015.4:612.124.017.1

BOGOYAVLENSKAYA, L. V., and GOLSHIMID, V. K., State Control Institute of Medical Biological Preparations imeni Tarasevich and Moscow Institute of Vaccines and Sera imeni Mechnikov

"The Role of IgA-Immunoglobulins as Agglutinins in Salmonella Sera"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 11, 1971, pp 59-65

Abstract: O, OH, and H Salmonella rabbit sera were separated into fractions by ion-exchange chromatography and sephadex gel filtration. In the second peak of the second fraction, antibodies resistant and nonresistant to cysteine hydrochloride were identified. The resistant antibodies are IgG globulins, while the nonresistant antibodies include IgM and IgA globulins. O agglutinins in Salmonella rabbit sera are made of IgM globulins, while H agglutinins are made of 7S proteins. Both IgA and IgG globulins develop after repeated administration of Salmonella antigens and are active in the agglutination reaction.

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Biophysics

USSR

BOGOYAVLENSKAYA, N. V., Institute of Experimental Biology, Academy of Medical Sciences USSR, Moscow

"Stability of DNA and RNA and Poly(A+U) to Thermal Denaturation in the Presence of Aminoethiol Radioprotectors"

Moscow, Biofizika, Vol 15, No 3, May/Jun 70, pp 400-403

Abstract: The curves of fusion of DNA, RNA and poly (A+U) at neutral pH in the process of thermal denaturation in the presence of aliphatic diaminodisulfides possessing radioprotective properties were observed. Addition of aminoethiols to a solution of nucleic acids, which was heated at 20-90°C for 25 minutes, showed no alteration in the curves, indicating resistance to thermal denaturation. It is postulated that this stability is due to a reaction with the heterogeneous nitrogen bases of the polynucleotide chains.

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1/2 023 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--COMPETITION OF TRIPLET TRIPLET AND TRIPLET SINGLET ENERGY TRANSFER
IN A POLYMER -U-
AUTHOR-(04)-ANISIMOV, V.M., BURSHTYN, K., BOGOYAVLENSKAYA, YE.,
KARPUKHIN, O.N.
COUNTRY OF INFO--USSR
SOURCE--OPT. SPEKTROSK. 1970, 28(4), 814
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--POLYCARBONATE, BROMINATED ORGANIC COMPOUND, ANTHRACENE,
CHEMICAL DECOMPOSITION, CYCLOHEXANONE, ELECTRON TRIPLET STATE, POLYMER
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3006/0872 STEP NO--UR/0051/70/023/004/0814/0814
CIRC ACCESSION NO--AP0134601
UNCLASSIFIED

2/2 023

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0134601

ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. DICYCLOHEXYL PEROXYDICARBONATE
MOLS., WHICH YIELD ON DECOMP. CYCLOHEXANONE IN THE TRIPLET STATE, WERE
USED TO EXAMINE THE TRIPLET TRIPLET (T-T) AND TRIPLET SINGLET (T-S)
ENERGY TRANSFER IN A POLYCARBONATE IN THE PRESENCE OF BENZIL TRIPLET
ACCEPTOR) AND 9,10 DIBROMOANTHRACENE (SINGLET ACCEPTOR), (A., 1969).
THE T-T ENERGY TRANSFER RATE EXCEEDED THE T-S RATE, WHICH WAS CONSISTENT
WITH EARLIER RESULTS (V. L. ERMOLAEV, 1963).

UNCLASSIFIED

USSR

UDC: 620.197.5:539.163

BOGOYAVLENSKIY, A. P., BELOV, V. T., Kazan' Aviation Institute

"The Ematal Effect and the Nature of Anodic Aluminum Oxide"

Moscow, Zashchita Metallov, Vol 9, No 3, May/Jun 73, pp 343-346

Abstract: A radioactive tracer was used in the form of CrO_3 to study the formation of anodic aluminum oxide. It was found that the introduction of chromate ions is quantitatively dependent on the content of H_3BO_3 in the solution. Borate ions promote introduction of chromate ions into the oxide (sensitizing action) when the H_3BO_3 content is less than 1 g/l. Beyond this borate content the concentration of chromate ions in the oxide decreases gradually. The presence of sulfate ions in the chromate-borate solution also increases the concentration of chromate ions in aluminum oxide until the sulfate concentration reaches 0.14-0.15 g/l, after which the chromate ion concentration in the oxide decreases. The proper concentration of chromate, borate and sulfate ions results in a ratio and distribution of forms of Al_2O_3 which cause structural nonhomogeneity leading to the Ematal effect and localized solubility of the anodic oxide.

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USSR

B Petroleum Processing Technology

UDC 62-634:534.321.9

BOGOYAVLENSKIY, A. F., SHAMES, S. I., and ABRAMOVICH, L. K., Kazan Aviation Institute, Kazan', Ministry of Higher and Secondary Specialized Education RSFSR

"Changes in the Composition of Kerosene TS-1 Under the Action of Ultrasound"

Leningrad, Zhurnal Prikladnoy Khimii, Vol 43, No 1, Jan 70, pp 92-96

Abstract: Kerosene TS-1 (GOST 10227-62) was subjected to the action of ultrasonic waves at a frequency of 20 kc and temperatures of 10-35°. While the calorific value, flash point, density, and content of aromatic hydrocarbons of the fuel did not show significant changes, the degree of unsaturation of the kerosene hydrocarbons, as indicated by the iodine number, could be increased within wide limits by the treatment. The I₂ number increased with an increasing power density of the ultrasound. Irrespective of the power density applied and the temperature, the maximum increase in the I₂ number was obtained on treatment for 10 min; treatment for a greater length of time did not result in a further significant increase. The degree of unsaturation produced increased with decreasing temperatures of 1/2

USSR

BOGOYAVLENSKIY, A. F., et al, Zhurnal Prikladnoy Khimii, Vol 43,
No 1, Jan 70, pp 92-96

treatment. On treatment of the kerosene for 15-60 min at temperatures of 20-35° and power densities of 94-156 W/l., the I₂ number that was raised by the treatment decreased to only an insignificant extent within 6 hrs and then remained constant for 2 days - i.e., the chemical changes produced in the hydrocarbons by ultrasound were stable.

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- 111 -

1/2 029

UNCLASSIFIED

PROCESSING DATE--04DEC70

TITLE--ADSORPTION PROPERTIES OF AN ANODIC OXIDE FILM ON ALUMINUM STUDIED
BY THE LABELED ATOM METHOD. 15. INJECTION OF ELECTROLYTE ANIONS INTO
AUTHOR--(03)-BELOV, V.T., BOGOYAVLENSKIY, A.F., KISELEV, I.P.

COUNTRY OF INFO--USSR

SOURCE--IZV. VYSSH. UCHEB. ZAVED., KHIM. KHIM. TEKHNOL. 1970, 13(2), 190-3

DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS, CHEMISTRY

TOPIC TAGS--ELECTROLYTE, ALUMINUM OXIDE, ANODIC OXIDATION, ANODIZATION,
SULFUR ISOTOPE, TRACER STUDY, OXIDE FILM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3005/0845

STEP NO--UR/0153/70/013/002/0190/0193

CIRC ACCESSION NO--AT0132935

UNCLASSIFIED

2/2 029

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AT0132935

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. FROM PRIME36 S TRACER TESTS, SO SUB4 PRIME2 NEGATIVE INTRODUCED INTO AN ANODIC OXIDE FILM DURING FILM FORMATION, BY ANODIZING FOR 20 MIN AT 20DEGREES AND 1 A-DM PRIME2 IN 20PERCENT H SUB2 SO SUB4, IS REMOVED TO A NEGLIGIBLE EXTENT BY CONTACT WITH EITHER DISTD. H SUB2 O OR 0.1M NA SUB2 SO SUB4 AT PH 5.6-5.8 FOR 1-12 HR. BY IMPOSITION OF AN ELEC. CURRENT AT 25 V DURING SEALING OF AN ANODIC FILM WITH PRIME35 S-TAGGED 0.1M NA SUB2 SO SUB4, THE REMOVAL OF SO SUB4 PRIME2 NEGATIVE BY WASHING IS INHIBITED MARKEDLY. THIS IS ATTRIBUTED TO MIGRATION OF SO SUB4 PRIME2 NEGATIVE IONS MORE DEEPLY INTO THE OXIDE FILM. RETENTION OF ANIONS BY AN OXIDE FILM IS CLASSIFIED AS BY ADHESION, BY SORPTION (ENTRAPPED IN CAPILLARIES), OR STRUCTURAL. THE CHARACTERISTICS OF THESE PROCESSES ARE DISCUSSED. FACILITY: KAZAN. AVIATS. INST., KAZAN, USSR.

UNCLASSIFIED

1/2 052 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--SCATTERING OF ULTRAVIOLET RADIATION BY ANODIC ALUMINUM OXIDE -U-
AUTHOR-(03)-BOGOYAVLENSKIY, A.F., BELOV, V.T., ISHMURATOVA, A.S.
COUNTRY OF INFO--USSR *B*
SOURCE--IZV. VYSSH. UCHEB. ZAVED., KHIM. KHIM. TEKHNOL. 1970, 13(2), 286-8
DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS, PHYSICS

TOPIC TAGS--UV RADIATION, ALUMINUM OXIDE, ELECTROLYTE, CRYSTAL STRUCTURE,
METAL COATING, ALUMINUM, ENERGY SCATTERING, LIGHT SCATTERING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3003/1509 STEP NO--UR/0153/70/013/002/0286/0288
CIRC ACCESSION NO--AT0130438
UNCLASSIFIED

2/2 052

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AT0130438

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AS THE THICKNESS OF AN ANODIC OXIDE FILM ON AL IS INCREASED, THE INTENSITY OF REFLECTED UV LIGHT DECREASES. WITH INCREASING VOLTAGE USED IN THE FORMATION OF THE OXIDE FILM, THERE IS A WELL DEFINED VARIATION IN THE INTENSITY OF THE REFLECTED BEAM THAT IS EXPLAINED BY CHANGES IN THE INTERNAL STRUCTURE OF THE OXIDE FILM. SCATTERING CHARACTERISTICS OF VARIOUS FILMS ARE EXPLAINED BY THE INFLUENCE OF THE ANIONS OF THE ELECTROLYTE ON THE INTERNAL STRUCTURE OF THE OXIDE. FACILITY: KAZAN. AVIATS. INST., KAZAN, USSR.

UNCLASSIFIED

AP0024049

UR 0056

PRIMARY SOURCE: Zhurnal Eksperimental'noy i Teoreticheskoy
Fiziki, 1969, Vol 57, Nr 6(12), pp 1937-1939

FUSION DIAGRAM OF THE $pH_2 - oD_2$, $pH_2 - HD$, $oD - HD$ SYSTEMS

Bereznyak, N. G.; Bogoyavlenskiy, I. V.; Karnatsevich, L. V.
Kogan, V. S.

The fusion diagrams of the $H_2 - D_2$, $H_2 - HD$ and $D_2 - HD$ systems are investigated. The diagrams of all these systems have a cigar shape. The excess Gibbs potential G_e in the solid phase is calculated from the data for the $H_2 - D_2$ system. From the form of the dependence G_e on the solution concentration it follows that in the solid phase near the fusion diagrams the solutions are regular. The critical separation temperature calculated for $H_2 - D_2$ solutions in the solid phase is $2.25^\circ K$.

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Acc. Nr.

A0047661

Abstracting Service:

CHEMICAL ABST. 470

Ref. Code

UR 0185

B

104940j Structure and grain size in solid solutions of helium-3 in helium-4. Berezhnyak, N. G.; Bogoyavlenskii, I. V.; Kogan, V. S. (Fiz.-Tekh. Inst., Kharkov, USSR). *Ukr. Fiz. Zh. (Russ. Ed.)* 1989, 14(12), 1983-7. (Russ). ³He, ⁴He, and solid solns. contg. 25, 49.8, and 75% of ³He were studied by x-ray diffraction at pressures from 40 up to 80 kg/cm². The phase diagram of the solns. of ³He in ⁴He assumes the presence of wide single-phase regions of ⁴He solid solns. in the ³He lattice (α -phase) and of ³He solid solns. in the ⁴He lattice (β -phase). The identity was confirmed of the α -phase structure with the ³He bcc. lattice and of the β -phase structure with the ⁴He hcp. lattice, which agrees with the phase diagram. The cryst. sizes in solid solns. were $\sim 50 \mu$.
D. Papousek

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REEL/FRAME
19791235

1814

USSR

UDC 539.374

BCGOYAVLENSKIY, K. N., YEGOROV, YU. I., YEFIMOV, I. A., KHOROSHAYLOV, V. G.

"On the Possibility of Cold Rolling of EI437BU Alloy"

Tr. Leningr. politekhn. in-ta (Works of Leningrad Polytechnical Institute),
1971, No. 322, pp 150-151 (from RZh-Mekhanika, No 12, Dec 71, Abstract No
12V596)

Translation: The results of a study to determine the resistance to deformation under conditions close to cold rolling are presented. The maximum possible degree of deformation before destruction of the samples under various load conditions, contact friction, and various heat treatments was determined. High plasticity is ensured after appropriate heat treatment, making it possible to recommend the cold rolling method for obtaining a feather profile from the EI437BU alloy. Authors' Abstract.

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AA0040661-

Bogoyavlenskii, M.S.

UR 0482

Soviet Inventions Illustrated, Section I Chemical, Derwent, 1-70

241478 FURNACE, ATMOSPHERE, CONTROL is by measuring the resistance of an inserted metal oxide film as a function of the partial pressure of atmospheric oxygen there. It is known that the resistivity of nickel oxide etc changes smoothly as a function of this partial pressure. The introduction of the film to the furnace enables the partial oxygen pressure there to be measured by any of the known methods of resistance measurement. A typical case is the resistance of woostite (Fe_xO_y) which increases by something like 2.5 times when the air flow coefficient ranges from 1.0 to 0.5. At $\alpha=0.5$ there is a sharp drop in resistance due to the woostite going over into iron; at $\alpha = 1.0$, there is a marked rise in resistance due in this case to the transition of woostite to magnetite (Fe_3O_4).

2.2.68 as 1218449/22-1. BOGOYAVLENSKII, M.S. et al.
MOSCOW EVENING METALLURGICAL INST. (5.9.69) Class 81c.
Int.Cl.C 21d.

19750251

AA004066.1

AUTHORS: Bogoyavlenskiy, M. S.; Vashchenko, A. I.; and Shul'ts, L. A.

Moskovskiy Vecherniy Metallurgicheskiy Institut

19750252

USSR

UDC 621.357.8.035.4:669.71

BOGOYAZLENSKIY, A. F., and MUKHAMEZYANOVA, L. N.

"A Study of the Properties of Anode Aluminum Oxides Obtained From the Salicylic-Oxalic Acid Electrolyte Using Tracer Techniques"

Tr. Kazan. aviats. in-ta (Works of the Kazan Aviation Institute) Vyp 148, 1972, pp 7-9 (from Referativnyy Zhurnal -- Khimiya, No 8(II), 1973, Abstract No 8L280)

Translation: The results are described for a study of the properties of the anode aluminum oxides obtained from the sulfosalicyl-oxalic acid electrolyte using tracer techniques. It was shown that the introduction of the sulfosalicylate ions into one of series is less than that of the oxalate ions. The introduction of the sulfosalicylate ions increases when the alloy metals DT-16 and AMGZ were used.

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1/2 019 UNCLASSIFIED PROCESSING DATE--02OCT70
TITLE--A SUMMARY OF THE RESULTS OF SURGICAL TREATMENT OF THE CARDIAC AND
MAJOR VESSELS IN THE CAUCASUS MINERAL WATERS -U-
AUTHOR--(05)--TOSHINSKIY, I.I., DOGOYEV, D.N., KUPTSOV, KIL.N., FISHOVA,
REZ., ABANICHEV, N.I.
COUNTRY OF INFO--USSR

SOURCE--VESTNIK KHIRURGII IMENI I. I. GREKOVA, 1970, VOL 104, NR 3, PP
25-32
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--SURGERY, CIRCULATORY SYSTEM, HEART, BLOOD VESSEL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1986/0951

STEP NO--UR/0589/70/104/003/0025/0032

CIRC ACCESSION NO--AP0102812

UNCLASSIFIED

2/2 019 UNCLASSIFIED PROCESSING DATE--02JCT70
CIRC ACCESSION NO--AP0102812
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE AUTHORS PRESENT THE ANALYSIS
OF THEIR EXPERIENCE WITH 984 OPERATIVE PROCEDURES PERFORMED ON THE HEART
AND LARGE VESSELS IN THE HOSPITAL OF THE PYATOGORK CITY.

UNCLASSIFIED

89

1/2 012 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--CHEMISORPTION AND ELECTRO OXIDATION OF HYDROCARBONS ON PLATINUM. X.
PARTICLES FORMED IN THE CHEMISORPTION OF PROPANE, AS INDICATED BY THE
AUTHOR--(02)-BOGRACHEV, A.M., PSHENICHNIKOV, A.G.
COUNTRY OF INFO--USSR
SOURCE--ELEKTROKHIMIYA, FEB. 1970, 6, (2), 190-193
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--CHEMISORPTION, PROPANE, PLATINUM ELECTRODE, HYDROGENATION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--2000/1986 STEP NO--UR/0364/70/006/002/0190/0193
CIRC ACCESSION NO--AP0125575
UNCLASSIFIED

2/2 012

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0125575

ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. THE NATURE OF THE PARTICLES FORMED IN THE CHEMISORPTION OF PROPANE ON A PT ELECTRODE WAS STUDIED BY THE CATHODIC HYDROGENATION METHOD. THE KINETICS OF THE HYDROGENATION PROCESS OBEYED LAWS SIMILAR TO THOSE HOLDING FOR REACTIONS INVOLVING PARTICLES ADSORBED ON A UNIFORMLY INHOMOGENEOUS SURFACE. ON CATHODIC HYDROGENATION THESE PARTICLES WERE DESORBED IN THE FORM OF MOLECULAR PROPANE (THE CHEMISORPTION CHARACTERISTICS INDICATED THAT PARTICLES CONTG. THREE C ATOMS WERE PREFERENTIALLY HYDROGENIZED).

UNCLASSIFIED

USER

UDC: 531.715.2 531.717.53

SIZONENKO, G. A., ~~BOGPETS, G. N.~~, SHUKIS, Z. E., GOKHEBERG, Yu. L., KOLO-
DYAZHNIY, A. P., VIKHRIST, R. S., MINAKOV, N. A.

"A Device for Measuring the Thickness of Nonmagnetic Coatings on the Inside
of Pipes"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obrastiy, Tovarnyye Znaki,
No 7, Mar 72, Author's Certificate No 329373, Division G, filed 25 Mar 70,
published 9 Feb 72, p 151

Translation: This Author's Certificate introduces a device for measuring
the thickness of nonmagnetic coatings on the inside of pipes. The device
contains a micrometer unit, a tubular bar, a movable rod, a force-measuring
spring, and a head with a permanent magnet connected to the movable rod.
The micrometer unit is fastened to the end of the tubular bar which is on
the outside of the pipe to be inspected, and the movable rod is coaxial with
the tubular bar and is coupled to the micrometer unit. The head with perma-
nent magnet is fastened to the end of the tubular bar on the inside of the
pipe to be inspected. As a distinguishing feature of the patent, the device
is designed for improved accuracy in measuring the thickness of coatings on

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SIZONENKO, G. A. et al., USSR Author's Certificate No 329373

the inside of long pipes, and especially those of small cross section. Inside the measurement head is a modular mechanism made up of two rollers wound with a flexible thread fastened by one end to the permanent magnet, and connected by the other end to the force-measurement spring. Also included in the device is a microcontact indicator of the position of the magnet fastened to one of its ends.

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BOGUMIL, A. *B*

"Influenza Is Not So Awful"

Tashkent, Komsomolets Uzbekistana. 20 Feb 70, p 4

Translation: Mankind has been recording the history of influenza epidemics since 1154 A. D. Some 54 cycles have taken place up to now and each of them was caused by a qualitatively new type of virus.

The virus is probably older than man, but it is possible that the human organism is a "factory" manufacturing the virus. At any rate, man is a carrier and spreader of the influenza virus. One can become infected only by a sick person when he talks, coughs, sneezes, or through the objects that he uses.

Professor A. L. Chizhovskiy discovered that influenza epidemics coincide with periods of solar flares, and 40 years ago he predicted the 1965 epidemic and the 1957-1959 pandemic (an epidemic prevalent on all continents). The scientist believes that the virus is a very simple compound of protein and nucleic acids somehow associated with

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BOGUMIL, A., Tashkent, Komosomolets Uzbekistana, 20 Feb 70, p 4
solar radiation.

The nature, history, and properties of the virus convincingly show that influenza has existed for thousands of years. The battle between the human organism and the virus has been waged for the same length of time. We mustn't think, therefore, that the fight against influenza is something that concerns the doctors alone. They cannot by themselves cope with this treacherous disease which flares up like a bonfire and spreads all over the world. People must understand what influenza is like and how to fight it.

The modern cycle of influenza epidemics started in 1967, with the A₂ type. The Soviet Union is now facing a new wave from Africa, Britain, and France and we will feel its full force in February and March.

The USSR organized a regional center to control influenza. It has worked out comprehensive anti-epidemic, sanitary-hygienic, and specific measures. The basis of prevention is active immunization of
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BOGUMIL, A., Tashkent, Komosomolets Uzbekistana, 20 Feb 70, p 2

of the population, which, artificially increases lack of susceptibility by vaccination.

The disease is a struggle to rid the body of the infection. The physician's task is not to interfere in this struggle but to create conditions for increasing the patient's immunity. Besides anti-

influenza serum, which is effective at the onset of the disease, we recommend symptomatic treatment: amidopterin for headaches, codeine and mustard plasters for coughing, cold compresses for fever, heating pads for chills, and pencillin or tetracycline to prevent possible complications plus bedrest, a milk and vegetable diet, lemon or raspberry tea.

There are no specific drugs for influenza. A preparation called amantadine has been developed abroad, but it is not completely safe for the patient.

3/4 If you want medication against all diseases and a long and

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BOGUMIL, A., Tashkent, Komsomolets Uzbekistana, 20 Feb 70, p 4

happy life, you must harden your body from youth. You can start to exercise and participate in sports at any age. Alternate intellectual with physical work, avoid alcohol and tobacco. This is the way to cultivate good health.

Excellent health is medication for all diseases, including influenza.

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